907,563.

L. F. BRAINE.

RAIL CLIP.

APPLICATION FILED FEB. 14, 1908.

Patented Dec. 22, 1908.

4 SHEETS—SHEET 1.

Fig. 1.

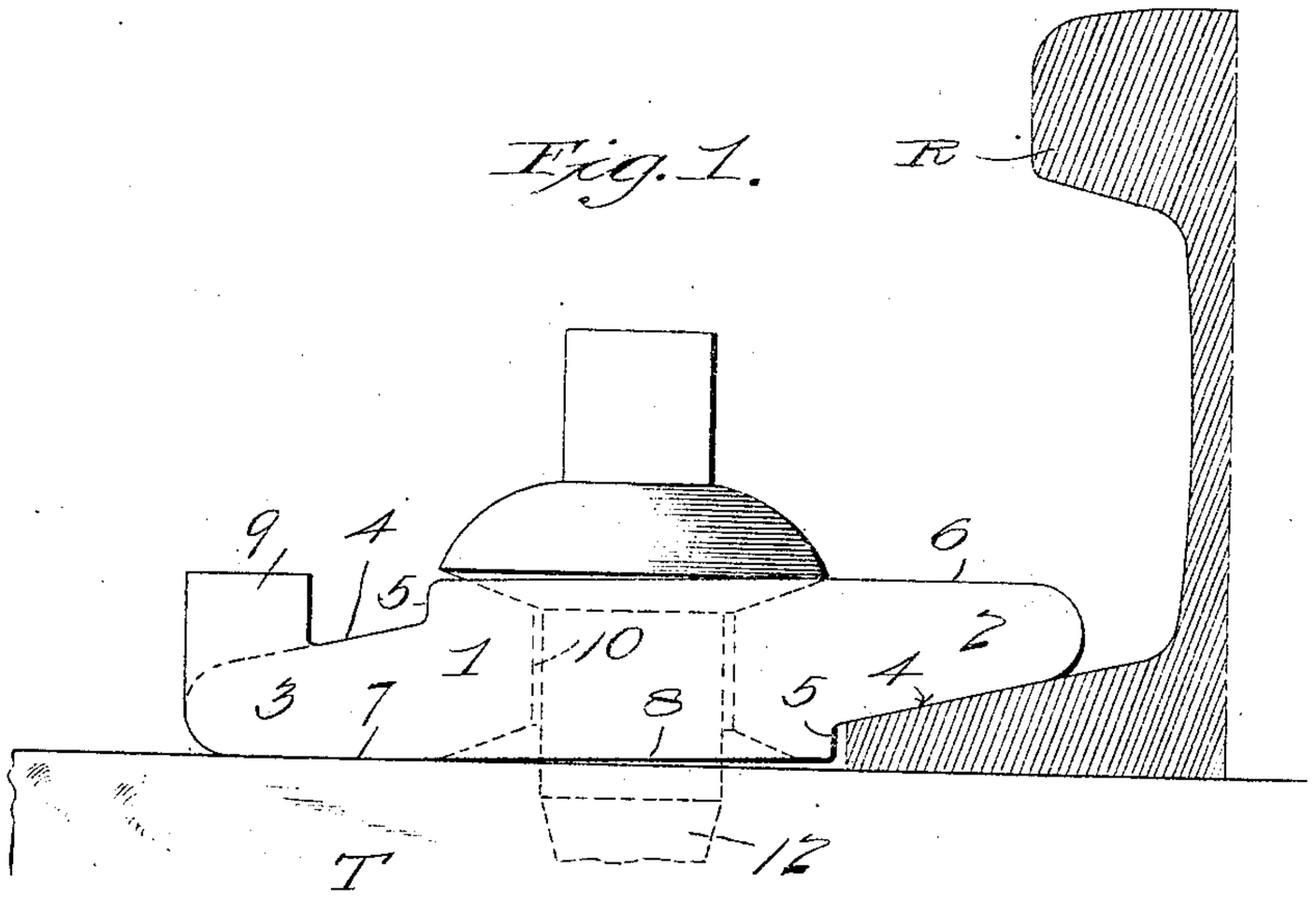
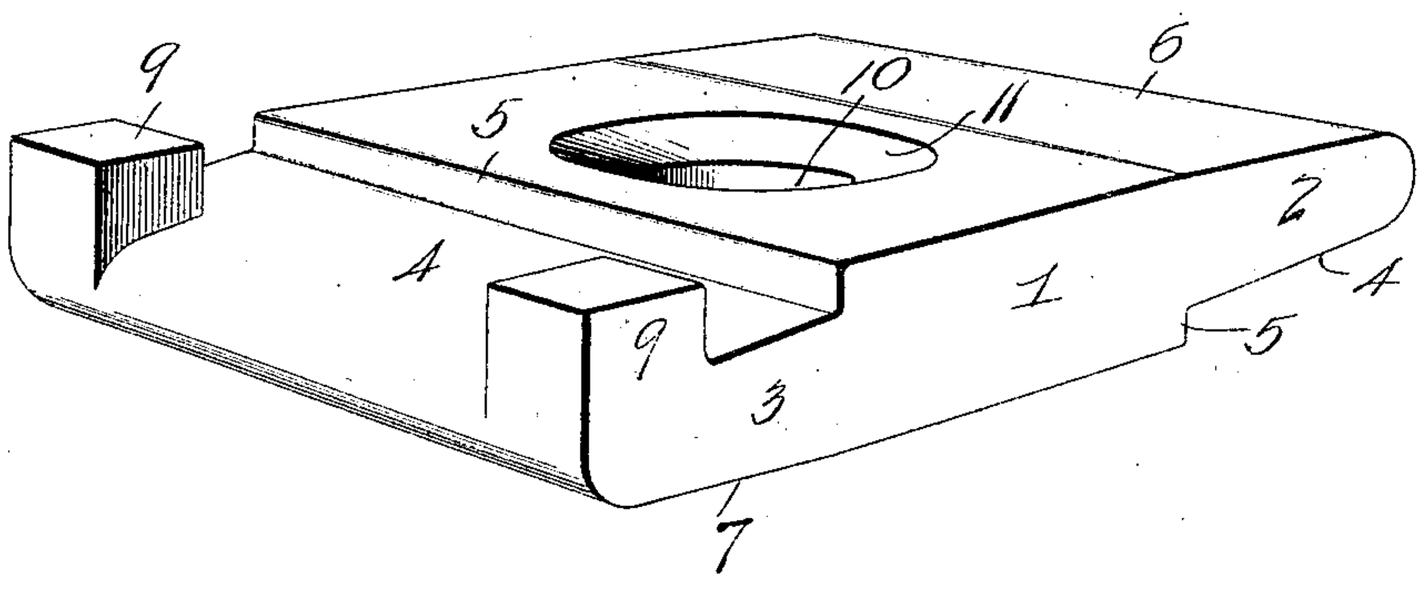


Fig. 2.



Witnesses

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4 SHEETS—SHEET 2.

Fig. 3.

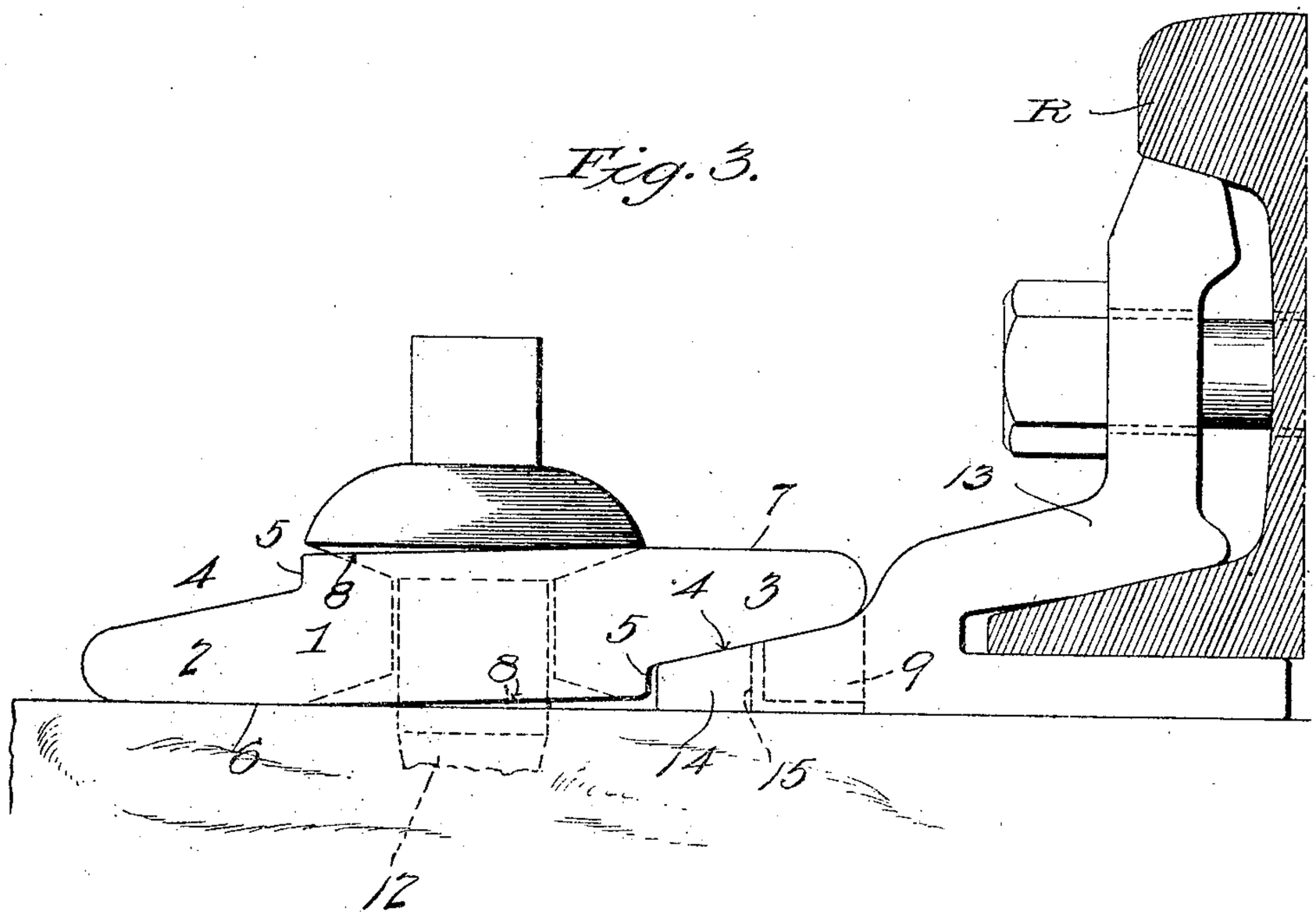
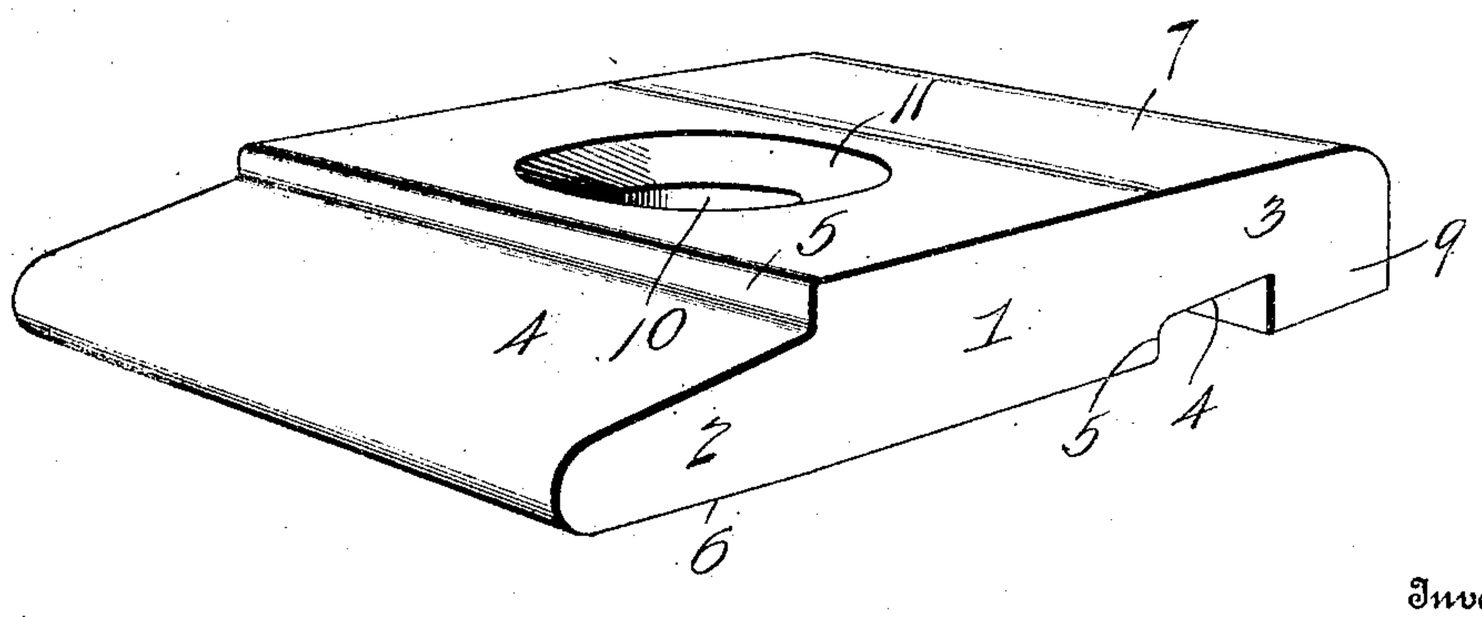


Fig. 4.



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4 SHEETS—SHEET 3.

Fig. 5.

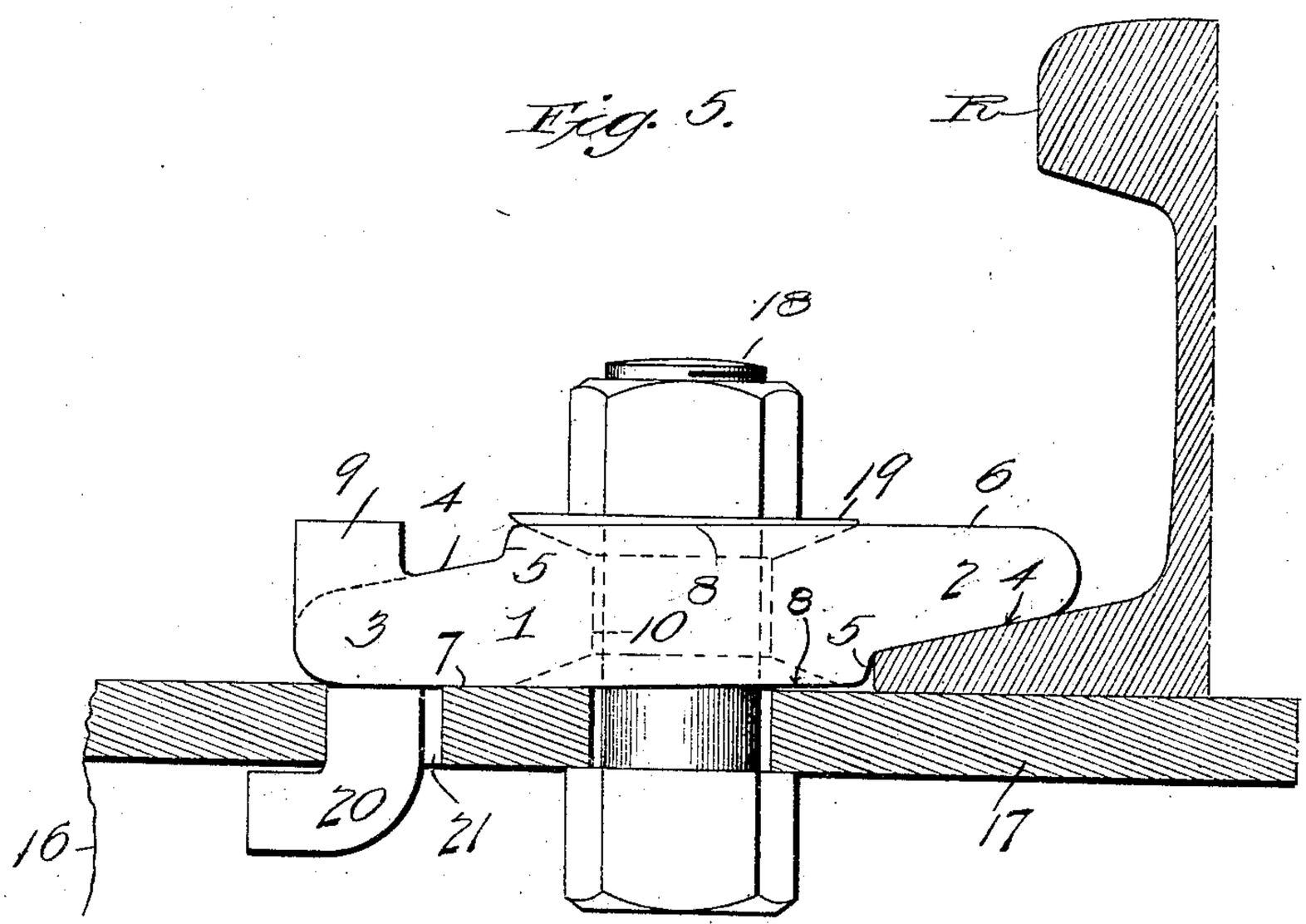
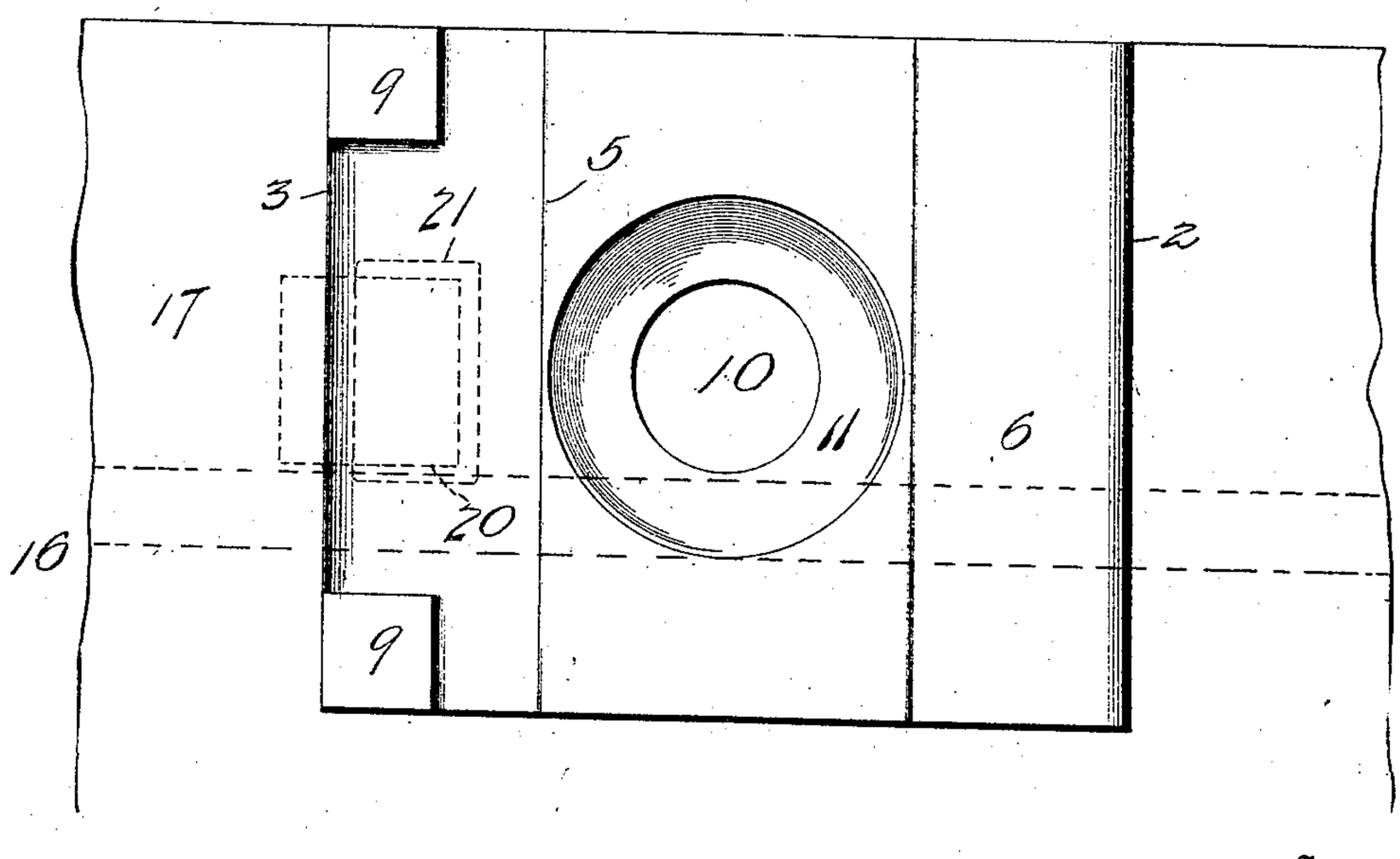


Fig. 6.



Witnesses

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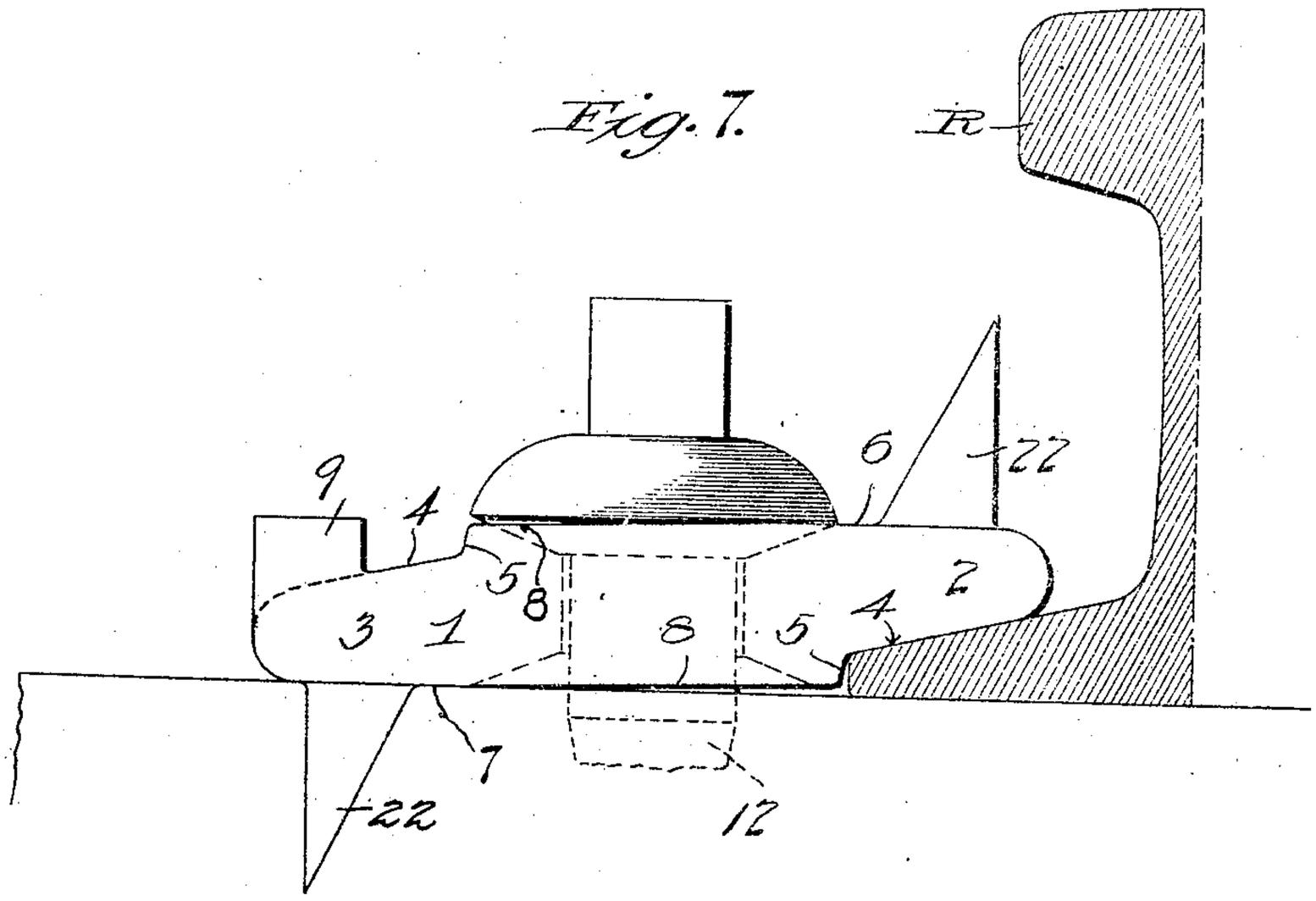
4 SHEETS—SHEET 4.

Fig. 7.



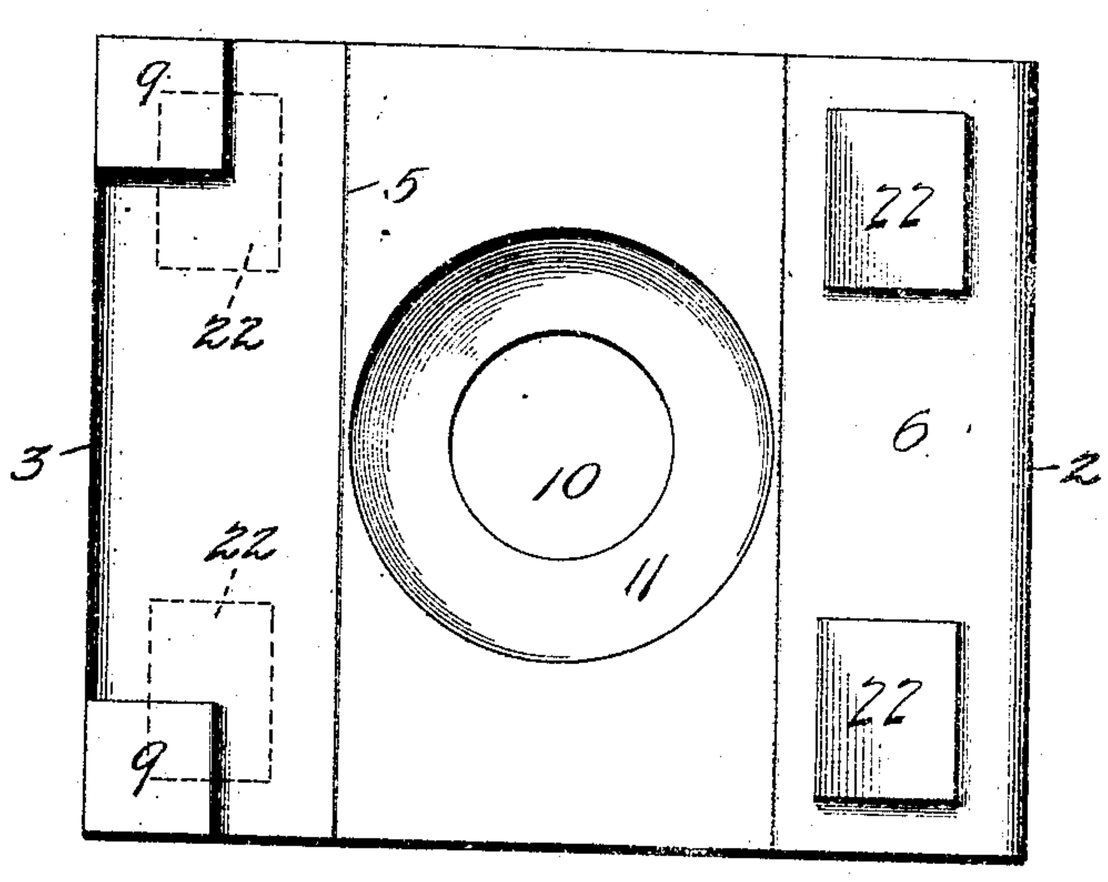


Fig. 8.

Witnesses

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UNITED STATES PATENT OFFICE.

LAWRENCE F. BRAINE, OF NEW YORK, N. Y., ASSIGNOR TO THE RAIL JOINT COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

RAIL-CLIP.

No. 907,563. Specification of Letters Patent. Patented Dec. 22, 1908.

Application filed February 14, 1908. Serial No. 415,815.

To all whom it may concern:

Be it known that I, LAWRENCE F. BRAINE, a citizen of the United States, residing at No. 29 West Thirty-fourth street, New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Rail-Clips, of which the following is a specification.

This invention relates to the subject of railway rail fastenings, and has special reference to that type of fastening known in the art as rail clips, and utilized as a clamping device for fastening the rail to the tie as a substitute for the conventional manner of employing railroad spikes and equivalent fasteners.

To this end the invention contemplates a simple, practical and thoroughly efficient construction of rail clip embodying means for firmly securing the rail to the tie in such a manner as to effectually maintain the gage of the track by positively preventing vertical or lateral movement of the rails. Also, the invention provides a construction of rail clip which entirely obviates any accidental displacement of the rail either vertically or laterally, and thus insures a fastening for the rail which not only performs all of the fastening functions of the ordinary rail fastenings, such as spikes, lag screws and the like, but also affords added security for the fastening besides presenting a structure having greater adaptability and durability than said ordinary fasteners.

In addition to the general functions above indicated, a special and distinctive object of the invention resides in a novel design of rail clip of what may be termed a duplex formation, so that the clip will be reversible in character and therefore having a wide range of adaptability. In this connection, the invention has in view a reversible clip which will perform its rail fastening functions not only as a direct fastening means for the rail itself, but also in connection with rail joints either of the standard or insulated types. Hence, the invention provides a rail clip capable of general application to rails directly, or to rail joints.

A further object of the invention is to provide an improved construction of clip so designed as to provide for adjustment for take-up purposes.

With these and many other objects in view, which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

The essential features of the invention, involved in the details for carrying out the objects above referred to, are necessarily susceptible to structural variations without departing from the scope of the invention, but certain preferred embodiments thereof are shown in the accompanying drawings, in which,—

Figure 1 is a sectional elevation showing the improved rail clip in its applied position as employed for a direct fastening for rails and joints of the insulated type. Fig. 2 is a detail in perspective of the improved design of rail clip shown in Fig. 1. Fig. 3 is a view similar to Fig. 1 showing the clip reversed and employed as a fastening in connection with a standard rail joint. Fig. 4 is a perspective view similar to Fig. 2, but illustrating the clip in its reversed position. Fig. 5 is a sectional elevation showing the clip adapted for use as a rail fastening in connection with a steel tie, and also illustrating the clip modified for that purpose. Fig. 6 is a detail plan view of the modified clip shown in Fig. 5 illustrating its arrangement upon the top flange of a steel tie. Fig. 7 is a sectional elevation showing the clip applied to a rail and illustrating a modification involving the provision of the clip with auxiliary anchoring claws for engagement in a wooden tie. Fig. 8 is a detail plan view of the modified design of clip shown in Fig. 7.

Like references designate corresponding parts in the several figures of the drawings.

The improved rail clip forming the subject matter of the present application, preferably consists of a single forging or casting of appropriate dimensions and weight to insure sufficient stability and strength as a rail fastening. In its structural formation, the said rail clip essentially comprises what may be characterized as a reversible clamp plate or body designated in its entirety by the reference numeral 1, and undercut at its ends respectively upon opposite sides thereof to produce the opposite and reversely

arranged clamping lips 2 and 3. The said clamp plate or body 1 may be of any suitable outline configuration, but is preferably of oblong, rectangular form, thereby disposing the reversely arranged lips 2 and 3 at the opposite ends of the body, and these lips are essentially of duplicate design, though reversely related, so as to be adapted to respectively clamp upon the base flange of a rail, and the foot flange of a rail joint side member. In this connection, it is to be observed that the oppositely located and reversely disposed clamping lips 2 and 3 are formed upon their undercut sides with the inclined bearing faces 4 and with the transverse abutment shoulders 5 located at the juncture of the inner ends of said faces 4 with the contiguous flat rest surface of the clamp body. These transverse abutment shoulders are therefore arranged in positions to receive and arrest lateral thrust of the rail or rail joint member.

The duplicate, but reverse, clamping-lip formation of the clamp body is a distinguishing feature of the improved clip, but in addition to the said lips, the clamp body is further provided at its upper and lower sides with what may be termed the upper and lower main flat rest surfaces 6 and 7, each of which surfaces is thinned off toward and next to the shoulder end 5 of one of the clamping lips to provide a clearance bevel 8. This clearance bevel extends the full width of the clamp body and has a slight inclination so as to not interfere with a firm and flat seating of the clip on top of the tie, but at the same time provides a clearance for adjustment purposes, so that wear can be taken up by tightening up the clip fastener.

Another distinguishing feature of the clip consists in providing the same with a supplemental fastening element or elements which supplements the fastening and clamping functions of the clip proper. This detail involves providing the clamp body on one side thereof, and preferably on what may be referred to as the under bearing face of one of the lips (3), with one or more offstanding supplemental fastening studs 9 of a round or angular form in cross section as may be desired. Obviously, any desired number of these studs 9 may be utilized, and in some cases, only a single one of such studs being entirely sufficient, but for illustrative purposes, the clamp body is shown in the drawings as preferably provided with a pair of said studs forming a rigid part of the lip 3 and projecting from the bearing face thereof so as to engage in and interlock with the spike holes or notches of a rail joint member, as will presently appear.

To provide for securing the clip to the tie, the same has its body portion pierced centrally by a fastener hole 10, at the ends of which may be formed countersinks 11 to provide annular bearing seats for a washer or head of a clip fastener of a suitable kind.

Referring more particularly to the application or use of the improved rail clip, it will be seen by reference to Fig. 1 of the drawings, that when applied as a direct fastening for a rail R, the clamp body is arranged with its rest surface 7 flat upon the tie T and its lip 2 engaged over and upon the base flange of the rail. Also, in this use, the clip is shown as secured to the tie by means of a clip fastener 12 in the form of a lag screw passed through the fastener hole 10 into the tie and binding on top of the clamp body and in the uppermost countersink or seat 11. With the parts thus arranged, it will be observed that the lip 3 and the supplemental studs 9 are idle except for the fact that the lip 3 constitutes a part of the bearing for the body upon the tie.

To adapt the clip to a standard rail joint, it is simply necessary to reverse the same as shown in Fig. 3 of the drawings, wherein the rail R is illustrated as being combined with a rail joint having a side joint member 13 provided with a foot flange 14 in which is formed the usual spike hole or holes 15, utilized under the present invention to receive the supplemental fastening studs 9 carried by the lip 3 which clamps on top of said foot flange.

Another use of the invention is shown in Figs. 5 and 6 of the drawings. These figures illustrate the clip applied as a fastening for rails in connection with a steel tie 16, and in this use thereof, the said clip is adapted to be secured directly on top of the top flange 17 of the tie through the medium of a bolt or equivalent clip fastener 18. In using a bolt as a fastener in this connection, a beveled or equivalent washer 19 may or may not be used in the uppermost countersink or seat 11 of the clamp body.

For purpose of additional security in the fastening, and to more effectually brace the same against the shearing action of the rail, the form of the invention shown in Figs. 5 and 6 involves the suggestion of providing the clamp body at or near one end portion thereof, with an offstanding angle, or other suitably shaped, anchor lug 20 detachably interlocked through the keeper hole 21 in the flange 17 of the tie, as plainly shown in the figures of the drawings referred to.

A further modification of the invention is suggested in Figs. 7 and 8 of the drawings. This modification includes all of the essential features hereinbefore described, and in addition thereto, the provision of the clamp body, upon the tie engaging surface of each clamping lip, with one or more rigid offstanding auxiliary anchoring claws 22 adapted to engage in a wooden tie to prevent lateral movement.

Various other modifications may be resorted to, and also changes in the form and

proportion of parts without departing from the spirit, or sacrificing any of the advantages of the invention.

I claim:

1. A rail clip comprising a reversible body having separate clamping means for respectively engaging a rail and a rail joint member.

2. A rail clip comprising a reversible body having opposite clamping lips, one of which carries supplemental fastening means.

3. A rail clip comprising a reversible body having opposite clamping lips, one of which carries a supplemental fastening stud for engagement with a spike hole in a rail joint member.

4. A rail clip comprising a reversible body having opposite clamping lips, and supplemental fastening studs, the latter being adapted to engage the spike holes of a rail joint member.

5. A rail clip comprising a reversible body having separate clamping means for respectively engaging a rail and a rail joint member, and also provided with auxiliary anchoring means for engagement with the tie.

6. A rail clip comprising a reversible body having separate clamping means respectively for a rail and a rail joint member, supplemental fastening means for engagement with a rail joint member, and auxiliary anchoring means for engagement with the tie.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

LAWRENCE F. BRAINE.

Witnesses:

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WALTER S. OGILVY.